REMARKS

Upon entry of this Amendment, claims 35 - 45 remain in the application. The Office Action of December 3, 2002, has been received and carefully considered. In response thereto, this Amendment is submitted. It is respectfully submitted that, by this Amendment, all bases of rejection and objection are traversed and overcome. Reconsideration is, therefore, respectfully requested.

Claims 35-42 currently stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Number 5,460,771 to Mitchell and Noone. The Examiner indicates that the Mitchell reference discloses the recited multiplayer tubing comprising an extrudable melt-processible thermoplastic material, and at least one additional layer also made of an extrudable melt-processible thermoplastic material which can also contain substituted and unsubstituted alkenes and vinyl alcohols or vinyl acetates, of which an ethylene content of 27%-35% can be used with vinyl alcohols, and where a third layer can also be provided which can be made of a plastic chemically dissimilar to at least the first layer, of which polyamides can be used as at least one of the thermoplastic materials.

The present application is a divisional application of U.S. Serial No. 09/405, 757, filed September 27, 1999, which is a continuation of U.S. Serial No. 08/639,421, filed April 29, 1996, which is a continuation of U.S. Serial No. 08/234,298 filed April 28, 1994, which s a continuation-in-part of four applications filed on July 11, 1992: U.S. Serial No. 07/897,302; U.S. Serial No. 07/897,304; U.S. Patent No. 07/897,376; and U.S. Serial No. 07/896,824. USSN 08/234,289 is also a continuation-in-part of U.S. Serial No. 07/868,754 filed April 14, 1992 and a continuation-in-part of U.S. No. 07/962,249, filed October 16, 1992.

U.S. Patent Number 5,562,127 was filed February 7, 1994 as a continuation-in-part of U.S. Serial No. 962,300 (filed October 16, 1992) and U.S. Serial No. 962, 496 (filed October 16, 1992). It is submitted that the Mitchell Patent was not filed before the date of the Applicants invention. The earliest date to which the Mitchell patent is arguably entitled is October 16, 1992. As indicated above, the present application claims priority to July 11, 1992; April 14, 1992 and October 16, 1992. Thus the Mitchell patent was not filed before the applicant's application date. At best, the present application was filed on the same date as the Mitchell patent and, as such, is unavailable as prior art in the present matter. It is respectfully submitted that, since the Mitchell reference is unavailable as a reference to support a rejection

under 35 U.S.C. § 102(e), the Applicants' invention as set forth in claims 35-45 is not taught, anticipated or rendered obvious by the Mitchell reference.

Claims 35-45 also stand rejected under 35 U.S.C. §103(a) as being rendered obvious over Maillard in view of Mitchell. The Examiner indicates that the Maillard reference discloses that the recited multilayer tubing comprising a first layer 12 of an extrudable melt-processible thermoplastic material, and at least one additional layer 16 also made of an extrudable melt processible thermoplastic material which can contain substituted groups such as vinyl alcohols and alkenes such as ethylene, and where a third layer can be provided which can be made of a plastic chemically dissimilar to at least the first layer, of which polyamides can be used as at least the first layer, of which polyamides can be used as at least one of the thermoplastic materials. It is the Examiner's position that the Maillard discloses all of the recited structure with the exception of how much ethylene is used and using substituted or unsubstituted alkenes with vinyl alcohols or vinyl acetates. The Examiner contends that it would have been obvious to one skilled in the art to modify the thermoplastic material of Maillard by providing copolymers of vinyl acetate or vinyl alcohol with substituted or unsubstituted alkenes and by varying the amount of ethylene used to be 27-35% as suggested by Mitchell as such would the thermoplastic layers.

It is respectfully submitted that the Mitchell reference is unavailable as a reference in support of this rejection under 35 U.S.C. §103(a) for the reasons discussed previously in conjunction with the discussion of 35 U.S.C. §102(e). While it has been held that prior art which is available under 35 U.S.C. §102(e) for anticipation is also available under 35 U.S.C. §103 for an obviousness rejection (See *Hazeltine Research, Inc. v. Brenner*, 382 U.S. 252, 147 USPQ 429 (1965)), a reference which fails to meet the requirements of 35 U.S.C. §102(e), cannot be employed to support a conclusion that a claimed invention would have been obvious to the skilled artisan. It is submitted that the Mitchell reference is not an appropriate reference for use in this context. Thus it us submitted that the Applicants' invention as set forth in claims 35-45 is not taught, anticipated or rendered obvious under 35 U.S.C. §103(b) over Maillard in view of Mitchell.

It is also submitted that the Applicants' invention as set forth in claims 35-45 is not taught, anticipated or rendered obvious by the Maillard reference.

The Applicants' invention as set forth in claim 35 is directed to an elongated multi-layer tubing for connection to a motor vehicle system to contain and convey fluids containing hydrocarbons, the multi-layer tubing which includes a first layer disposed radially innermost.

The first layer is composed of an extrudable melt-processible thermoplastic and has an inner face capable of prolonged exposure to fluids containing hydrocarbons and an outer face spaced a predetermined thickness from the inner surface. The tubing also has at least one additional layer disposed radially outward of the first layer and in overlying relationship thereto, said at least one additional layer composed of an extrudable melt-processible thermoplastic material and connected to the first layer in an essentially permanent manner. It is respectfully submitted that the Maillard reference fails to teach or suggest an automotive tubing construction that is resistant to hydrocarbon interaction and permeation and includes multiple layers that are bonded in an essentially permanent manner. Thus, it is respectfully submitted that the present invention as set forth in claim 35 is not taught, anticipated or rendered obvious by the Maillard reference.

Claims 36, 38, 39, and 41 currently stand rejected under 35 U.S.C. §102(b) as being anticipated by the Maillard reference. It is respectfully submitted that the Applicants' invention as set forth in claims 36 and 37 depend from independent claim 35 to contain all of the limitations found therein. By this dependency, it is submitted that the Applicants' invention as set forth in claims 36, 38, 39, and 31 is not taught, anticipated or rendered obvious by the cited references for the reasons discussed previously in conjunction with claim 35.

Furthermore, it is respectfully submitted that the Maillard reference outlines numerous materials that it suggests can be employed in the construct disclosed therein. Among these are *poly*vinyl alcohol or vinyl acetate. However, the reference fails to teach or suggest *copolymers* of substituted alkenes and vinyl alcohol, *copolymers* of unsubstituted alkenes and vinyl alcohol, *copolymers* of substituted alkenes and vinyl acetate, *copolymers* of unsubstituted alkenes and vinyl acetate, and mixtures thereof. Thus it is submitted that claim 36 and those claims depending therefrom are not taught, anticipated or rendered obvious by the cited reference.

The Applicants' invention as set forth in claim 37 is directed to a multilayer tube for connection to a motor vehicle system to contain and convey fluids containing hydrocarbons in which the melt processible material employed in the additional layer is resistant to permeation by an interaction with short chain aromatic and aliphatic hydrocarbons. It is respectfully submitted that the cited reference fails to teach or suggest such material or a tubing construction that employs such material in the manner of the present invention.

The Applicants' invention as set forth in claim 42 is directed to an elongated tubing capable conveying hydrocarbons, the tubing which includes a plurality of concentrically disposed polymeric layers with each concentrically disposed polymeric layer connected to at least one other concentrically disposed polymeric layer in an essentially permanent manner. The plurality of concentrically disposed polymeric layers include a first layer disposed radially innermost of the plurality of concentrically disposed polymeric layers and at least one additional layer disposed radially outward thereof and in essentially permanent contact therewith. At least one of these layers is composed of a melt-processible thermoplastic material selected from the group consisting of copolymers of substituted alkenes and vinyl alcohol, copolymers of unsubstituted alkenes and vinyl alcohol, copolymers of substituted alkenes and vinyl acetate, copolymers of unsubstituted alkenes and vinyl acetate, and mixtures thereof. Also included is at least one additional layer is composed of a thermoplastic material which is chemically dissimilar to said at least one of the plurality of concentrically disposed polymeric layers.

It is respectfully submitted that the Maillard reference fails to teach or suggest a tubing in which at least one layer is composed of a thermoplastic material selected from the group consisting of copolymers of substituted alkenes and vinyl alcohol, copolymers of unsubstituted alkenes and vinyl alcohol, copolymers of substituted alkenes and vinyl acetate, copolymers of unsubstituted alkenes and vinyl acetate, and mixtures thereof with at least one additional layer chemically dissimilar from the layers previously enumerated. Thus, it is submitted that the Applicants' invention as set forth in claim 42 is not taught, anticipated or rendered obvious by the Maillard reference.

Claims 43 and 45 depend from independent claim 42 to contain all of the limitations found therein. By this dependency, it is submitted that the Applicants' invention as set forth in claims 43 and 45 is not taught, anticipated or rendered obvious by the cited references for the reasons discussed previously in conjunction with claim 42.

Claim 44 depends from independent claim 42 to specify that the thermoplastic material of the additional layer is selected from the group consisting of polybutylene terepthalate, polyethylene terepthalate, and mixtures thereof. It is respectfully submitted that the Maillard reference fails to teach or suggest these specific materials. Thus, it is submitted that the Applicants' invention as set forth in claim44 is not taught, anticipated or rendered obvious by the cited reference. Furthermore, claim 44 depends from claim 43 to contain all of the limitations found therein. By this dependency, it is submitted that the Applicants'

invention as set forth in claim 43 is not taught, anticipated or rendered obvious by the cited references for the reasons discussed previously in conjunction with claim 42.

It should be noted that the Maillard reference specifically discloses and claims one type of tubing construction while making reference to an extensive list of known plastic materials. It is axiomatic that the performances of various chemical compositions, compounds and materials are unpredictable. This unpredictability militates against the ability of a reference providing a skilled artisan with teaching that a particular material will perform in the manner intended.

It is submitted that the Maillard reference is directed to a tube having multiple thermoplastic layers. This 1971 reference states:

> The plastic materials which can be used for the manufacture of tubes of in accordance with the invention include ***all extrudable plastic materials***, for instance, with without the following to be considered limitative:
>
> Cellulose esters and ethers, for example, ethyl cellulose and cellulose acetate, acetobutyrate, and acetopropionate; vinyl and vinylidine polymers and co-polymers, for instance, polymers and co-polymers of vinyl chloride, vinyl acetate, vinylidine chloride, polyvinyl alcohol, polyvinyl butyral, polymers and co-polymers of acrylic and methacrylic esters; polymers and co-polymers olefins [sic.], such as ethylene and propylene, polymers and co-polymers of styrene, of alphamethylstyrene and their mixtures or elastomeric co-polymers; polyamides, interpolyamides, such as polyhexamethylene, adipamide, polyepsiloncaprolactam, polyundecanamide, polyhexamethylene-sebacamide; polycarbonates, polyethers, such as polyaldehydes, polyurethanes; natural and synthetic elastomers, thermoplastic fluorinated resins, silicone resins and elastomers. Preferably, polyolefins are used, in particular, polyethylenes and polyamides, especially polyundecanamides. (Maillard, column 2, lines 28-47, emphasis added).

It should be noted that the Maillard reference attempts to recite virtually every class and type of thermoplastic material without providing the artisan with any teaching that would guide in the selection of specific materials. It is respectfully submitted that, in order to support the present rejection, the Maillard reference must be construed as placing the skilled artisan in possession of ***all*** classes and types of thermoplastics regardless of difficulties inherent in melt-processing the various materials, co-extrusion of materials with one another,

or the like. It should be noted that the various materials enumerated vary greatly in melt-temperature ranges, melt-viscosities, flow rates and the like. As advanced by the Patent Office, the Maillard reference stands for the premise that ***any*** thermoplastic can be used with any other thermoplastic in any possible layered combination to prepare a multi-layer, particularly one which will be suitable for use in a fuel and vapor system given the disclosure provided in Maillard. Any information regarding compatibility or variations in melt temperature, flow rate, viscosity or the like would be within the capability of the skilled artisan upon reading the Maillard reference. The Applicants' respectfully disagree.

It is submitted that the ultimate position advanced by the Patent Office is that the Maillard reference must be construed as placing the skilled artisan in possession of the teaching and skill to prepare multi-layer tubing constructions having each and every possible combination of each and every one of the thermoplastics listed in Column 2 of the Maillard reference and set forth above. This encompasses some 4×10^{26} different potential combinations each with peculiarities of chemical structure, and unique physical characteristics that present unique challenges regarding successful processing and tubing performance.

It is respectfully submitted that the Maillard reference lacks sufficient information which would permit the skilled artisan to ascertain which among the multitude of combinations may or may not function as an effective tube or even process together at all. For instance, the various materials enumerated have various processing parameters such as temperature, flow rate, etc. as well as characteristics which may or may not permit felicitous co-extrusion to form the desired multi-layer tubing. Beyond a teaching the polyethylene materials can be processed together, the Maillard reference fails to teach or suggest any selection criteria which would guide the skilled artisan in selecting which of the several thousand thermoplastic layer combinations may or may not work in a tubing construction. It is submitted that the vast number of potential combinations would require undue experimentation to determine which material combinations could successfully function in tubing constructions. When confronted with as vast a number of combinations as suggested in the Maillard reference, the skilled artisan should not be required to guess among the materials which may or may not prove to be functional. Given the vast number of potential combinations encompassed by the above-quoted section from the Maillard reference, it is submitted that the reference, without more, is insufficient to one of ordinary skill in the art to suggest making the claimed combination.

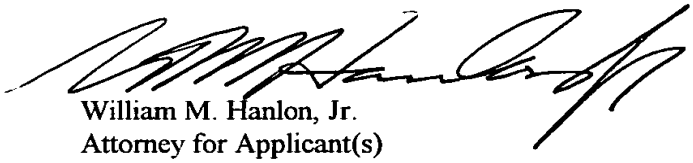
It is further submitted that the Maillard reference is relevant only in hindsight.

Once the Applicants determined tubing constructions which could function in the manner claimed, the Maillard reference could be consulted to determine whether the newly invented combination was "foreshadowed" by one or more of the 4×10^{26} different potential combinations outlined in Maillard.

In view of the foregoing discussion, it is respectfully submitted that the Applicants' invention as set forth in claims 35-45 is in a condition suitable for allowance. A Notice of Allowance is, therefore, respectfully requested.

Respectfully submitted,

YOUNG, BASILE, HANLON, MacFARLANE, WOOD & HELMHOLDT, P.C.



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